

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

H16NM
Revision 2
Aviation International Rotors, Inc.
(AIR, INC)
CH-54A
August 2, 1999

TYPE CERTIFICATE DATA SHEET H16NM

This data sheet, which is a part of the Type Certificate No. H16NM, prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: Aviation International Rotors Inc.
19378 Central Rd.
Apple Valley, CA 92307

I. Model CH-54A (Restricted Category Rotorcraft) Approved June 15, 1994. (See NOTES Section)

Engines (2) Pratt & Whitney JFTD12A-4A (T73-P-1)

Fuel Aviation Kerosene JP4 or JP5

Engine Limits	Shaft Horsepower	Power Turbine Speed (N ₂)	Gas Gen. Speed (N ₁)	Power Inlet (T ₅)
Military Power (30 min.)	4500	105%	104%	688° C
Normal Continuous Cruise	4000	104%	104%	655° C

Rotor Limits
Max. 204 r.p.m. (110% N_r)
Min. 167 r.p.m. (90% N_r)

Airspeed
gross
V_{NE} (Never Exceed Speed): 99 knots between 38,000 lbs. and 42,000 lbs.
weight.
115 knots up to 38,000 lbs. gross weight.

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C.G. Range

Longitudinal CG Limits

(+324.0 to +352.0) at 23,000 lbs.
 (+324.0 to +352.0) at 30,000 lbs.
 (+328.0 to +352.0) at 38,000 lbs.
 (+328.0 to +346.0) at 38,000 lbs.
 (+328.0 to +346.0) at 42,000 lbs.

Straight line variation between points given. (See chart)

Gross Weight (Lbs.)



Station - inches

Maximum Weight

42,000 lbs.

Minimum Crew

2 - pilot and copilot

Number of Seats

5 - 2 at (+92.9); 1 at (+108.5); 1 at (+127.0), 1 at (+130.0)

Maximum Cargo

See NOTE 6.

Fuel Capacity

1351 gal. - 454 gal. at (+280.8), 454 gal. at (+397.3), 443 gal. at (+461.3)

Oil Capacity

3.2 gal. at (+234.0) - (2 tanks 1.6 gal. each)

Control Movements

For rigging information, see NOTE 3.

Serial No. Eligible

Refer to AIR, INC. Serial Number Eligible Report Number AIR105, Revision N/C, dated April 20, 1999, or later FAA approved revision. A current copy is on file at Los Angeles ACO.

Datum Leveling Means

Station 0 (datum is 336 inches forward of main rotor centroid). Leveling means is plumb line from top level plate inside cockpit aft door

Certification Basis

FAR 21.25(a)(2) effective February 1, 1965, including Amendments 21-1 through 21-42. Type Certificate No. H16NM issued June 15, 1994, for the Special Purpose(s) of:

1. Agricultural Operations under FAR 21.25(b)(1).

Certification Basis (cont'd)

Note. In accordance with FAR 36.1(a)(4), compliance with the noise requirements was not shown. Therefore, aircraft certified under this type certificate are only eligible for agricultural operations excepted by FAR 36.1(a)(4) and defined under FAR 137.3.

2. Forest and Wildlife Conservation Operations under FAR 21.25(b)(2).

Note: In accordance with FAR 36.1(a)(4), compliance with the noise requirements was not shown. Therefore, aircraft certificated under this type certificate are only eligible for dispensing fire fighting materials excepted by FAR 36.1(a)(4) and defined under FAR 137.3

3. External Load Operations under FAR 21.25(b)(7).

Note: In accordance with FAR 36.1(a)(4), compliance with the noise requirements was not shown. Therefore, aircraft certificated under this type certificate are only eligible for external load operations excepted by FAR 36.1(a)(4) and defined under FAR 133.1(b).

General Note: Any alteration to the aircraft for Special Purposes not identified above require further FAA approval and in addition may require noise and/or flight testing.

Date of application for Type Certificate: February 28, 1994.

Production Basis

None. Prior to original certification of each aircraft, a FAA representative must perform a detailed inspection for workmanship, materials, and conformity with approved technical data following a check, by the type certificate holder, of the flight characteristics in accordance with all applicable portions of U.S. Army Technical Manual "Operator's Manual, Army Model CH-54A Helicopters", TM55-1520-217-10-1, dated April 8, 1997, with Changes 1 through 8, revised September 25, 1986, and U.S. Army Technical Manual No. TM55-1520-217-CL-1, "Operator's & Crewmember's Checklist, Army Model CH-54A Helicopters, Pilot's Checklist", dated June 2, 1985, as appropriate for each aircraft, or other FAA approved manual.

Equipment

Equipment necessary for the particular special purpose operation must be installed.

NOTES

NOTE 1.

A current weight and balance report including a list of equipment included in the certificated empty weight, and loading instructions when necessary, must be provided for each helicopter at the time of original airworthiness certification. Refer to Weight and Balance Report No. AIR107, Revision N/C, dated July 20, 1999, for C.G. determination..

NOTE 2.

The following placards must be prominently displayed in the cockpit in full view of the pilots:

Placard No. 1

“THIS ROTORCRAFT MUST BE OPERATED IN ACCORDANCE WITH THE RESTRICTED CATEGORY OPERATING LIMITATIONS OF FAR 91.313.”

Placard No. 2

“THIS HELICOPTER MUST BE OPERATED IN COMPLIANCE WITH THE OPERATING LIMITATIONS SPECIFIED IN THE APPROVED HELICOPTER OPERATORS MANUAL. REFER TO TM55-1520-217-10-1, CHAPTER 5, FOR OPERATING LIMITS AND RESTRICTIONS.”

Placard No. 3

“VFR OPERATIONS ONLY”.

The builder’s data plate required by FAR 45.13 must be installed in accordance with drawing AIR-1002.

NOTE 3.

The helicopter(s) must be serviced, maintained, and inspected in accordance with the documents specified in AIR, INC. Instructions for Continued Airworthiness Report AIR102, Rev. B, dated April 20, 1999, as revised or inspected in accordance with other FAA accepted inspection programs. The TC Holder’s Instructions for Continued Airworthiness Report is part of the TC Holder’s Instructions for Continued Airworthiness.

NOTE 4

This helicopter must be operated in accordance with a flight manual comprised of the following:

- (1) Department of the Army Technical Manual No. TM55-1520-217-10-1, “Operator’s Manual, Army Model CH-54A Helicopters”, dated April 8, 1977, with Changes 1 through 8, revised September 25, 1986.
- (2) Department of the Army Technical Manual No. TM55-1520-217-CL-1, “Operator’s & Crewmember’s Checklist, Army Model CH-54A Helicopters, Pilot’s Checklist”, dated June 2, 1985.

NOTE 5.

Prior to obtaining an original Airworthiness Certificate:

Each helicopter must pass a conformity inspection in accordance with AIR, INC. Engineering ‘Configuration Report AIR 101, Rev. 4, dated July 28, 1999, or later FAA approved revision. The configuration report also identifies the special purpose modification(s) accomplished on that particular helicopter. AIR, INC. Report AIR101, Rev. 4, dated July 28, 1999, identifies the Military MWOs mandatory on the helicopter and the MWOs which are specific and optional. In addition, each helicopter must pass an inspection for any possible hidden damage and the military records reviewed for acceptability of any

repairs

or alterations.

- NOTE 5. (cont'd)
- B. The maintenance, overhaul, and modification records of each helicopter must be reviewed for military changes that may affect the airworthiness of the helicopter.
- C. After the required inspections, the aircraft must be found to be in a good state of preservation, repair, and in a condition for safe operation.
- NOTE 6.
- This aircraft is prohibited from carrying cargo for compensation or hire. Carriage of cargo is limited to such cargo that is incidental to the aircraft owner/operator's business which is other than air transportation. (This note applies to aircraft that have the special purpose, "Carriage of cargo".)
- NOTE 7.
the
- Restricted category aircraft may not be operated in a foreign country without express written approval of that country.
- NOTE 8.
- This aircraft has not been shown to meet the requirements of the applicable comprehensive and detailed airworthiness code as provided by Annex 8 to the Convention on International Civil Aviation.
- NOTE 9.
- Engine changes are allowed provided the replacement engine is of the same make and model as identified in this TCDS. The replacement engine must have proper records and have the applicable FAA airworthiness inspection accomplished.
- NOTE 10.
- The Airworthiness Directives for the helicopter and engine contained in AIR, INC., Airworthiness Directives Report AIR 106, Revision N/C, dated April 20, 1999, or later FAA approved revision, must be complied with prior to original airworthiness certification.
- NOTE 11.
- The service life limited parts overhaul and retirement intervals for these helicopters is specified in AIR, INC., Instructions For Continued Airworthiness Report, Report No. AIR 102, Rev. B, dated April 20, 1999, or later FAA approved revision. .
- NOTE 12.
structural

concerning
- Provision for the carriage of external loads are available in the form of hard points on the fuselage and main landing gear; single point hoist; four lashing reels; and four load-leveler suspension systems. Information the operating limitations with this equipment is contained in the Flight Manual.
- NOTE 13.
- Any alteration to the type design of this aircraft may require Instructions for Continued Airworthiness. These instructions must be submitted and accepted by, Fort Worth Aircraft Evaluation Group (FTW-AEG), prior to approval for return to service.

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